



Supplementary Figure S7. Aβ is a Promising Therapeutic Target for Treatment of Brain Metastasis. **A**, Western blot analysis of 12-273 BM sh-Scr vs. sh-APP cells cultured without doxycycline on day of intracardiac injection in NSG mice. **B**, Quantified brain/body luminescence at day 37 post-intracardiac injection of 12-273BM cells for therapeutic simulation experiment (**Fig. 6A-D**). **C**, Quantification of plasma Aβ-40 levels in Control vs. BACE-i treated mice at 28 days post-intracardiac injection with 12-273 BM cells (**Fig. 6F-H**). Control vs. BACE-i ($*** p < 0.0005$). **D,E**, Quantified brain/body luminescence at day 28 post-intracardiac injection with 12-273BM (**Fig. 6F-H**) or 5B1(**Fig. 6I-K**). 12-273 BM Control vs BACE-i (**D**, $* p < 0.05$), 5B1 Control vs BACE-i (**E**, $* p < 0.05$). **F-J**, Therapeutic treatment of established 12-273 BM melanoma brain metastases with BACE-inhibition ($n = 11$ NSG mice per group). **F**, Diagram of therapeutic treatment of established melanoma brain metastases with BACE-i. **G**, Representative IVIS images at 28 days post-intracardiac injection in mice. **H**, Quantified brain/body luminescence at 28 days post-intracardiac injection. 12-273 BM Control vs BACE-i ($* p < 0.05$). **I**, Representative images of FFPE brain slides with brain metastatic cells stained by anti-NuMA immunohistochemistry. **J**, Quantification of NuMA+ brain metastatic cells. 12-273 BM Control vs. BACE-i ($* p < 0.05$).